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Zombie patents

Drug companies are adept at extending the lifespan of patents, at consumers' expense

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IT IS hard to think of an industry in which competition is more important than pharmaceuticals. As health-care costs rocket, the price cuts—often of 85% or more—that generic drugs offer are one easy way to economise. Ibuprofen is a good example. In the early 1980s the drug, which soothes both pain and inflammation, was a costly patented product. Today Boots, a British chemist, sells 16 generic tablets for 40 pence (68 cents), just 2.5 pence per pill. In America, the drug can be bought in bulk for a penny a pop. Indeed, competition from generics is so painful to drugs companies that they have invented a series of ingenious palliatives, exploiting patent laws to help maintain high prices.

Patents create short-term monopolies. The deal is simple: the drug inventor makes its formula public and in exchange is granted a competition-free run at the market, lasting up to 20 years. This gives pioneers time to recoup the costs of researching and developing new compounds, vital when creating a new medicine can cost up to $5 billion. The patent guarantees a decent return, meaning companies have both the means and the incentive to keep innovating.

When the patent reaches its expiry date, the comfortable monopoly evaporates, replaced by cut-throat competition. Incumbents have three ways of defending themselves. Marketing can create brand-specific demand, dulling the temptation to switch to low-price products. Ibuprofen illustrates this. Developed by the chemists at Boots itself in the 1960s, the patent expired in 1984. But a year earlier Boots had created Nurofen, branded ibuprofen. The clever mix of packaging and advertising protected its profits. The lucrative Nurofen brand was sold in 2006; Boots still stocks the product, which costs five times more than its generic equivalent.

A second strategy nudges customers towards newer drugs that are still protected by patent.

Omeprazole, a drug to reduce stomach acid developed by AstraZeneca in the 1980s, shows how it works. Branded as Losec in Britain and Prilosec in America, it became one of the world's bestselling drugs in the mid-1990s. With the patent set to expire in 2001 AstraZeneca faced a drop in profits. So the company took its drug and adapted it, creating a closely related compound, esomeprazole, which it sold as Nexium. Though a clear offshoot of the original medicine, this counted as a new drug and was given a patent. A big marketing campaign and attractive pricing helped shift demand away from Losec and towards Nexium. With the help of this strategy, sales between 2006 and 2013 amounted to almost $40 billion.

This sort of "follow on" patenting is common. In a new paper (http://onlinelibrary.wiley.com/doi/10.1002/hec.2935/abstract) Sotiris Vandoros of the London School of Economics looks at what happens when patents expire in two important classes of drugs: ACE inhibitors, used to treat blood pressure, and proton-pump inhibitors, such as omeprazole. He tracked sales of these drugs after patents expired in six European countries between 1991 and 2006, measuring the switch both to generic drugs and to related but still patented compounds. Mr Vandoros's findings are worrying. When patents expired on Captopril, a leading ACE inhibitor, cheap generic versions became available. But the total volume of sales of all versions of the drug went down rather than up as demand shifted to more expensive patented products. Other drugs showed similar patterns, meaning that competition from generics was failing to cut costs.

Even more troubling than fending off competition with marketing nous and chemical tinkering is drug companies' third option: pay the makers of generics not to compete. Since the early 2000s "pay for delay" agreements have become more common. A company with a patent due to expire strikes a deal: it pays potential entrants a fee not to compete, preserving its monopoly. A pay-for-delay deal between AstraZeneca and three big generic manufacturers helped to protect Nexium from competition between 2008 and May 2014.

The economic costs of these three strategies vary hugely. Marketing is a decent way to compete. Purists may wish that firms would try to outdo each other by devoting more cash to genuine research and economists may bemoan the irrationality of those who buy branded drugs at ten times the price of an identical generic. But despite the quibbles, the market works: there is a choice, including a low-cost option.

Giving competition an adrenalin shot

Follow-on drugs are a greyer area. Some believe that many are genuinely new inventions, different enough to justify a fresh patent. Big drugmakers' defenders argue that product redesign is a symptom of a healthy and innovative market. Yet America's competition watchdog, the Federal Trade Commission (FTC), recently decided that normal rules of thumb do not apply: new products can harm competition in this market. It filed a legal brief to that effect in 2012 regarding Warner Chilcott, a pharmaceutical firm which had reformulated an

antibiotic three times. The firm's strategy, which the FTC calls "product hopping", offered little in the way of genuinely new medicine, but helped keep generics out of the market, sustaining a monopoly.

If product hopping suggests sickly competition, pay-for-delay deals are a terminal illness. They impose huge, unnecessary costs on consumers: the 40 deals struck in 2012 cover annual drug sales of $8.1 billion; pay-for-delay costs an estimated $3.5 billion a year, according to recent FTC reports. Happily, pay-for-delay may itself be on the verge of losing protection. A ruling by America's Supreme Court last year should make it easier to challenge such deals under competition laws.

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